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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,934	06/14/2001	Yasumi Sago	K-1984	4444

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EXAMINER

KACKAR, RAM N

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 08/20/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Y

# Office Action Summary

Application No.

09/879,934

Applicant(s)

SAGO ET AL

Examiner

Ram N Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ ~~Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.~~
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-3, 6, 8 -10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al (US 5946183). Yamada et al disclose an electrostatic chuck (Fig 6), comprising a dielectric layer (Fig 6-40 and abstract), chucking electrode (Fig 6-9), temperature control (Fig 6-19, B and Col 1 line 57-64), chucking power source (Fig 6-7), chucking surface concaves for heat exchange gas (Fig 6-27), under pressure (Col 5 line 50-52), gas distribution concave (Fig 6-24b) which are deeper than heat exchange concaves (Fig 6 and Col 7 line 5).

Regarding claims 2-3, 6, 9, 10 and 13, gas distribution concaves are disclosed to be formed in coaxial with the center of the stage (Fig 7) while the depth of heat exchange concaves is disclosed to be 20  $\mu\text{m}$  (Col 16 line 1) and the depth of gas diffusion concaves 100  $\mu\text{m}$  (Col 5 line 50-52), to 1000  $\mu\text{m}$  (Col 16 line 2).

3. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mountsier et al (US 5810933). Mountsier et al disclose an electrostatic chuck (Fig 1), comprising a dielectric layer (Fig 1-4), chucking electrode (Fig 1-2), temperature control (Col 1 line 41), chucking power source (Fig 1-14), chucking surface concaves for heat exchange gas (Fig 11b), under pressure (Col 7 line 48), gas distribution concave (Fig 11b -74) which are deeper than heat exchange concaves (Fig 11b).

Art Unit: 1763

Regarding claims 2-3, 6, 9, 10 and 13, gas distribution concaves are disclosed to be formed in coaxial with the center of the stage (Fig 7) while the depth of heat exchange concaves is disclosed to be below 40  $\mu\text{m}$  (Col 10 line 65) and the depth of gas diffusion concaves 700  $\mu\text{m}$  (Col 13 line 14).

Regarding claims 4-5 and 11-12 the contact area disclosed is 10% (Col 9 line 42) and area of gas diffusion concaves is indirectly disclosed to be at least 5% (on a wafer of 200 mm diameter (Col 11 line 37) and diffusion concave width of 0.5 to 2.5 mm (Col 13 line 16) and plan view of Fig 15a to 19 b will yield an estimate of at least 5%).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mountsier et al (US 5810933) in view of Sexton et al (US 6377437). Mountsier et al do not disclose lift pin provided in gas introduction channel. Sexton et al disclose cooling gas flowing through lift pin holes (Abstract and Fig 9-46). Therefore it would have been obvious for one with ordinary skill in the art at the time invention was made to use gas channel hole for dual purpose of lift pin hole as well as cooling gas channel to make the design simpler and economical.

Art Unit: 1763

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996.

The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK  
August 18, 2002

  
GREGORY MILLS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

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